

blackish vittæ on the thorax, all sub-equally separated from each other, the median pair being linear and more abbreviated behind than the others, which are more interrupted at the suture and curved inward behind. The hypopygium of the ♂'s is more or less reddish. The brassy pollen of thorax extends downward over the whole pleuræ, and on the underside of the front femora, in both sexes. The front tarsi of ♀ do not seem to be dilated. The scutellum bears three strong posteriorly appressed marginal bristles on each side, of which the middle one is the shortest; a short and weaker also appressed strongly decussate X-like pair in the middle on margin; and a shorter but sub-erect and straight pair immediately in front of the decussate ones. In the other points given by Williston (Trans. Am. Ent. Soc., 1888, p. 300), the specimens agree.

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### LOCALITY AND FOOD PLANT CATALOGUE OF MEXICAN COCCIDÆ.

BY C. H. TYLER TOWNSEND.

The following is a complete list, with full localities, distribution, and food plants, of all the scale insects so far identified from Mexico. The number, which in 1893 was but 18, now reaches 80, including varieties, and four species found at Brownsville, Texas, which must surely occur near Matamoros. The new species mentioned, have been described by Professor Cockerell in the Canadian Entomologist, Vol. XXIX, p. 265, who has recently worked up the last lot of material collected for the Department of Agriculture. That portion of the material collected between April 24 and May 10, 1896, in Yucatan, Campeche and Laguna, was secured while on a trip for the Department. The determinations of all the species of my own collecting have been made by Mr. Pergande and Professor Cockerell. Mr. Pergande determined most of the well-known species, while Professor Cockerell worked up new and less known forms.

**Llaveia axinus** *Llave*. (a) Halfway between Salina Cruz and Tehuantepec (Oaxaca). On unknown prickly bush, May 29, 1896. Coll. Towns. (b) Tlacotalpam (Vera Cruz). On *Jatropha* sp., and *Spondias* sp. Coll. by Llave.

Peculiar to Mexico. "I believe the genus *Llaveia* will prove to be identical with *Ortonia*, from Ecuador and Guatemala" (Ckll.).

**Llaveia axinus**, var. **dorsalis** Dugés. Mexico (exact locality not known to me). Coll. Dugés.

Peculiar to Mexico.

**Icerya purchasi** *Mark.* (a) Guaymas (Sonora). On orange, Sept. 23, 1894. Coll. Towns. (b) Hermosillo (Sonora). On orange, Sept. 25, 1894. Coll. Towns. (c) Magdalena (Sonora). On orange and lime, Sept. 26, 1894. Coll. Towns. (d) Victoria (Tamaulipas). On orange, Oct. 16, 1894. Coll. Towns. (e) Monterey (Nuevo Leon). On orange, Oct. 17, 1894. Coll. Towns.

Known elsewhere in California, Florida, Australia, New Zealand, South Africa, Sandwich Islands.

**Icerya montserratensis** *R. & H.* Izamal (Yucatan). On orange, April 28, 1896. Coll. Towns.

Known elsewhere in Montserrat Trinidad, Grenada.

**Icerya palmeri** *R. & H.* Guaymas (Sonora). On grape. Coll. Palmer.

Peculiar to Mexico. This species was described from cast larval skins, and may prove to be identical with some species more recently described.

**Coccus cacti** *L.* Southern Mexico. Formerly cultivated on *Opuntia*, in parts of southern Mexico, Oaxaca, Guerrero, etc.

Known elsewhere in Madeira, Canary Islands, Algeria, Spain, India, etc., where it was introduced for cultivation long ago. Also occurs in Jamaica.

**Coccus tomentosus** *Lam.* Guanajuato and Silao (Guanaj.) On *Opuntia* sp. Coll. Dugés.

Peculiar to Mexico.

**Coccus confusus** *Ckll.* var. La Puerta Rancho (Tamaulipas). In masses on *Opuntia* sp., May 6, 1895. Coll. Towns.

Known elsewhere in Texas, New Mexico, Arizona, Colorado. "The specimens are larger than the normal *confusus*" (Ckll.)

**Capulinia sallei** *Sign.* Mexico (exact locality unknown). On plant called "*capulino*." Coll. Sallé probably.

Peculiar to Mexico.

**Conchaspis angræci**, var. **hibisci** *Ckll.* Tampico (Tamaulipas). On *Malvaviscus arboreus* called "*tulipan*," October 14, 1894. Coll. Towns.

Peculiar to Mexico. The typical *C. angræci* is known only from Jamaica and Trinidad.

**Conchaspis newsteadi** *Ckll.* (sp. n.) Vera Cruz (Vera Cruz).

On frangipanni, Feb. 26, 1896. Coll. Towns.

Peculiar to Mexico. "Surprising discovery! Three species of the genus are now known; *anagraci* in Jamaica on an orchid (Hope Gardens), with the variety *hibisci* collected by Townsend in Tampico; another not yet published, found by Green in Ceylon; and now the third, this one found by Townsend in Vera Cruz. What the native country of the genus is, I know not. It may be oriental. I called this species after Mr. Newstead because he gave a very good illustrated account of the genus (as *Pseudinglisia*) only a few months after I published it." (Ckll.)

**Eriococcus dubius** *Ckll.*—Valles (Tamaulipas). On unknown plant, Oct. 13, 1894. Coll. Towns.

Peculiar to Mexico.

**Phenacoccus yuccæ** *Coq.* (a) Tlaltizapam (Morelos). On lime, Oct. 7, 1894. Coll. Towns. (b) Mexico (D. F.). On banana in sheltered patio, Dec. 27, 1892. On *Yucca* sp., probably *Y. filifera*, Oct. 8, 1894. Both coll. Towns. (c) Guadalajara (Jalisco). On orange, *Agave* sp., banana, *Yucca* sp., *Colocasia* sp., Oct. 9 and 10, 1894. Coll. Towns. (d) Agnas calientes (A. C.). On *Pelargonium* sp., *Amaryllis* sp., Oct. 11, 1894. Coll. Towns. (e) San Luis Potosi (S. L. P.). On orange, lime, cherimoya, *Lantana* sp., pomegranate, *Tacoma stans*, a malvaceous tree, and a caprifoliaceous shrub, Oct. 12, 1894. Coll. Towns. (f) Tampico (Tamaulipas). On orange, Oct. 14, 1894. Coll. Towns. (g) Las Esteros (Tamaulipas). On *Mimosa* sp., Oct. 15, 1894. Coll. Towns. (h) Monterey (Nuevo Leon). On fig, Oct. 17, 1894. Coll. Towns. (i) Campeche (Camp.). On *Tecoma stans*, April 25, 1896. Coll. Towns. (j) Progreso (Yucatan). On fig, May 16, 1896. Coll. Towns. Jalapa (Veracruz). On orange, May 19, 1896. Coll. Towns.

Peculiar to Mexico and California.

**Phenacoccus helianthi** *Ckll.* var. Northern Tamaulipas (probably). Occurs in Lower Rio Grande Valley. On cotton at Santa Maria, Texas, May 7, 1895. Coll. Towns.

Peculiar to Lower Rio Grande Valley. The typical form is found in southern New Mexico on sunflower.

**Dactylopius citri** *Boisd.* (a) Orizaba and (b) Cordova (Vera Cruz). On coffee. Coll. Segura. (c) Uruapan, (d) Ario, (e) Cuicatlan, (f) Jacona, (g) Tacambaro (Michoacan). On coffee. Coll. Segura.

Known elsewhere in eastern United States, Florida, Jamaica, Trinidad.

**Dactylopius virgatus** *Ckll.* Northern Tamaulipas (probably)<sup>2</sup> Occurs in the Lower Rio Grande Valley. On *Cereus princeps*, guava, and *Abutilon holosericeum*, at Brownsville, Texas, June 1 to 17, 1895. Coll. Towns.

Known elsewhere only in Jamaica.

**Dactylopius nipæ** *Musk.* Jicaltepec (Vera Cruz). On guava, July 19, 1896. Coll. Towns.

Known elsewhere only in Demerara and Trinidad.

**Dactylopius olivaceus** *Ckll.* Ciudad Porfirio Diaz (Coahuila). In cavities in leaves of *Yucca australis*, Nov. 25, 1894. Coll. Towns. Peculiar to Mexico (so far as known, but doubtless occurs in Texas).

**Dactylopius sonorensis** *Ckll.* San Ignacio (Sonora). *Hymenoclea monogyra*, called "gecota." Sept. 26, 1894. Coll. Towns. Peculiar to Mexico.

**Orthezia insignis** *Dougl.* var. (a) Guadalajara (Jalisco). On orange, Oct. 9 and 10, 1894. Coll. Towns. (b) Agnas Calientes (A. C.). On lime, and (accidentally) tomato. Oct. 11, 1894. Coll. Towns. (c) Izamal (Yucatan). On chile, *Capsicum* sp., May 14, 1896. Coll. Towns. This may be either the true form or the variety. (d) Vera Cruz (Vera Cruz). Plant not given. May 7, 1893. Coll. Ckll. (e) Guanajuato (Guan.). Coll. Dugés.

Known elsewhere (typical form) in Jamaica, Trinidad, Antigua, Demerara, Ceylon.

**Lecaniodiaspis radiatus** *Ckll.* (sp. n.) Near Salina Cruz (Oaxaca). On plant resembling *Equisetum*, May 29, 1896. Coll. Towns.

Peculiar to Mexico. "This is the first record of the genus from Mexico. The species belongs in the subgenus *Prosopophora*, and is closely allied to others of the genus" (Ckll.).

**Asterolecanium pustulans** *Ckll.* (a) Pacific Coast of Mexico (locality unknown). On climbing plant. Coll. Craw, on plants entering port of San Francisco. (b) Vera Cruz (Vera Cruz). On potted plant, May 7, 1893. Coll. Ckll.

Known elsewhere in Florida, Jamaica, Montserrat, Antigua, Anguilla, Grenada, Demerara, Brazil, Sandwich Islands.

**Tachardia mexicana** *Comst.* Tampico (Tamaulipas). On *Mimosa* sp. Collector unknown; material found by Comstock in Museum Comparative Zoölogy.

Peculiar to Mexico.

**Tachardia larreae** *Comst.* Northern Sonora (probably). On *Larrea tridentata*. Recorded by Comstock as occurring in southern Arizona and Mexico.

Peculiar to the *Larrea* region of southwestern Arizona and northern Sonora. *Tachardia* is a *Neotropical* genus entering the United States only in Arizona and New Mexico (and probably Texas).

**Lichtensia lutea** *Ckll.* Vera Cruz (Vera Cruz). On *Croton* sp., May 7, 1893. Coll. Ckll.

Peculiar to Mexico.

**Pulvinaria camelicola** *Sign. (?)*. Tehuantepec City (Oaxaca). On *Ficus* sp., May 26, 1896. Coll. Towns.

Known elsewhere in Europe, New Zealand. As Professor Cockerell did not see these specimens they may be the same as his *P. simulans*.

**Pulvinaria simulans** *Ckll.* var. Northern Tamaulipas (probably). Occurs in the lower Rio Grande Valley. On a cultivated caprifoliaceous shrub at Brownsville, June 1, 1895. Coll. Towns.

Known elsewhere only in Georgia.

**Pulvinaria simulans** *Ckll.* Monterey (Nuevo Leon). On "fitolaca," which is another name for avocado pear, Oct. 17, 1894; and Oct. 1, 1895. Both coll. Towns.

Known elsewhere only in Trinidad (Port of Spain). Professor Cockerell says: "Nearer the Trinidad type, from which it hardly differs, than the Brownsville insect. It has 7-jointed antennæ, 3d joint longest, the rest subequal, 6 a little shorter, 2 a little longer than 1. Tarsal digitules filiform, digitules of claw short, bulbous at base, and with very large knobs."

**Ceroplastodes niveus** *Ckll.* Montezuma (Chihuahua). On spiny shrub, May 12, 1893. Coll. Ckll.

Peculiar to Mexico.

**Ceroplastes irregularis** *Ckll.* Montezuma (Chihuahua). On *Atriplex canescens*, May 12, 1893. Coll. Ckll.

Peculiar to Chihuahua and southern New Mexico.

**Ceroplastes cistudiformis** *Towns & Ckll.* Guanajuato (Guan.). On *Bignonia* sp. and *Chrysanthemum* sp. Coll. Dugés.

Peculiar to Mexico. Very near to *C. psidii*, Chav. which occurs in Brazil.

**Ceroplastes cirripediformis** *Comst.* (?) San Rafael (Vera Cruz). On *Castilloa elastica* (rubber tree), March 6, 1896.\* Coll. Towns.

Known elsewhere in Jamaica, Florida.

**Ceroplastes floridensis** *Comst.* Balantam (Yucatan). On *Ficus* sp., May 10, 1896. Coll. Towns.

Known elsewhere in Florida, Louisiana, Jamaica, Barbadoes.

**Ceroplastes mexicanus** *Ckll.* (a) Guaymas (Sonora). On *Tecoma stans*, Sept. 24, 1894. Coll. Towns. (b) San Luis Potosi (S. L. P.). On *Tecoma stans*, Oct. 12, 1894. Coll. Towns. (c) Tehuantepec City (Oaxaca). On *Ficus* sp., May 26, 1896. Coll. Towns.

Peculiar to Mexico.

**Ceroplastes ceriferus** *Anders.* Cuantla (Morelos). On *Malvaviscus arboreus*, Oct. 7, 1894. Coll. Towns.

Known elsewhere in India, Japan, Australia, Antigua, probably Brazil. This determination was made by Professor Cockerell, who then considered the following species to be identical with *ceriferus*. It may, therefore, be the same form as the following, which was determined by Mr. Pergande, who holds the two to be distinct.

**Ceroplastes dugesii** *Towns.* (?) (a) San Rafael (Vera Cruz). On large tree with red bark, called "chaco" and "palo mulato," Feb. 29, 1896. Coll. Towns. (b) Guanajuato (Guan.). On *Malvaviscus arboreus* and *M. acerifolius*. Coll. Dugés.

Peculiar to Mexico.

**Lecanium hemisphæricum** *Targ.* Laguna, on Carmen Island (Campeche). On caprifoliaceous shrub (?), April 24, 1896. Coll. Towns.

Known elsewhere in Jamaica, Trinidad, Antigua, Montserrat, Pennsylvania, California, New Zealand, Australia, Europe.

**Lecanium hesperidum** *Linn.* (a) Tampico (Tamaulipas). On orange, Oct. 14, 1894. Coll. Towns. (b) San Luis Potosi (S. L. P.). On lime, Oct. 12, 1894. Coll. Towns. (c) Monterey (Nuevo Leon). On avocado pear, Oct. 17, 1894. Coll. Towns. (d) Chihuahua (Chih.). On orange in sheltered patios, Oct. 19, 1894. Coll. Towns.

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\* I think this is a mistake made at the Dept. If I am not mistaken, I took this on avocado pear.—C. H. T. T.

(*e*) Nuevo Laredo (Tamaulipas). On guava and rose, Dec. 13, 1894. Coll. Towns. (*f*) Matamoros (Tamaulipas). On orange, June 1, 1895. Coll. Towns. (*g*) Izamal (Yucatan). On orange, April 28, 1896. Coll. Towns. (*h*) Vera Cruz (Vera Cruz). On rose, May 7, 1893. Coll. Ckll.

Known elsewhere in Europe, New York, Ohio, District Columbia, Georgia, Florida, Texas (Brownsville and Corpus Christi, Coll. Towns.), Utah, California, Jamaica, Trinidad, Sandwich Islands, Chili, New Zealand, Australia, South Africa. Concerning the material collected at Izamal, Yucatan, Prof. Cockerell says: "Is this species to all appearances, but material hardly adequate."

**Lecanium oleæ** *Bern.* (*a*) Agnas Calientes (A. C.). On oleander, *Pelargonium* sp. and plant called "*marguerita*," Oct. 11, 1894. Coll. Towns. (*b*) San Luis Potosi (S. L. P.). On orange, lime and *Tecoma stans*, Oct. 12, 1894. Coll. Towns. (*c*) Las Esteros (Tamaulipas). On *Mimosa* sp., Oct. 15, 1894. Coll. Towns. (*d*) Monterey (Nuevo Leon). On fig, Oct. 17, 1894. Coll. Towns. (*e*) Nuevo Laredo (Tamaulipas). On guava, Dec. 13, 1894. Coll. Towns.

Known elsewhere in Jamaica, Antigua, Trinidad, Florida, South Carolina, Texas (Brownsville and Corpus Christi, Coll. Towns.), California, Sandwich Islands, Japan, France, Australia, New Zealand.

**Lecanium terminaliæ** *Ckll.* Vera Cruz (Vera Cruz). On liliaceous plant, May 7, 1893. Coll. Ckll.

Known elsewhere only in Jamaica.

**Lecanium schini** *Ckll.* Guanajuato State. On *Schinus molle*. Coll. Dugés.

Peculiar to Mexico.

**Lecanium imbricatum** *Ckll.* Alta Mira (Tamaulipas). On *Mimosa* sp., Oct. 15, 1894. Coll. Towns.

Peculiar to Tamaulipas and the Lower Rio Grande Valley. Several specimens were found by me on cotton at San Tomas, near Brownsville, Texas, April 5, 1895.

**Lecanium sallei** *Sign.* Mexico (no exact locality). Plant unknown. Coll. Sallé.

Peculiar to Mexico.

**Lecanium chilaspidis** *Ckll.* (sp. n.). Tehuantepec City (Oaxaca). on *Chilaspis linearis*, May 26, 1896. Coll. Towns.

Peculiar to Mexico. This is a large species "Belongs to a typically *neotropical* series, and is a very distinct species" (*Ckll.*).

**Lecanium perditum** *Ckll.* (n. sp.). Xcolak (Yucatan). On *Ficus* sp., May 10, 1896. Coll. Towns.

Peculiar to Mexico. Professor Cockerell says: "This is a most interesting species, and must go in *Eulecanium*, a subgenus heretofore confined to the *Holarctic* region. It is very close in many respects to *L. antennatum*, Signoret, of the northeastern United States (on oak). At the same time, it indicates an approach from *Eulecanium* to the *neotropical* forms *L. batatae*, Ckll. (Antigua, on roots of sweet potato), and *L. baccharidis*, Ckll. (Brazil, on *Baccharis*), two species, the relationships of which had heretofore been wholly obscure."

**Lecanium**, sp. n. (?) San Luis Potosi (S. L. P.). On pods of *Tecoma stans*, Oct. 12, 1894. Coll. Towns.

Peculiar to Mexico.

**Leconopsis dugesii** *Sign.* Mexico (probably Guanajuato). Plant unknown. Coll. Dugés.

Peculiar to Mexico.

**Aspidiotus rapax** *Comst.* Northern Tamaulipas (probably). Found in great numbers on oleander at Point Isabel, Texas, June 8, 1895. Coll. Towns.

Known elsewhere in Florida, New Mexico, California, Antigua.

**Aspidiotus tricolor** *Ckll.* (sp. n.). Near Salini Cruz (Oaxaca). On shrub not identified, May 29, 1896. Coll. Towns.

Peculiar to Mexico. "Very near to *A. rapax*, Comst., and *A. ulmi*, W. G. Johnson, but seems distinct. The three species constitute a little group. *A. ulmi* is from Illinois" (Ckll.).

**Aspidiotus nerii** *Bouche.* (a) Chihuahua (Chih.). On oleander, rose, olive, and tree called "*palo dulce*," Oct. 19, 1894. Coll. Towns. (b) Aguas Calientes (A. C.). On oleander and shrub called "*trueño*," Oct. 11, 1894. Coll. Towns. (c) San Luis Potosi (S. L. P.). on "*trueño*," Oct. 12, 1894. Coll. Towns. (d) Guadalajara (Jalisco). On *Yucca* sp., Oct. 9, 1894. Coll. Towns. (e) Matamoros (Tamaulipas). On *Melia azedarac*, June 6, 1895. Coll. Towns.

Known elsewhere in eastern United States, California, Honolulu, Australia.

**Aspidiotus crawii** *Ckll.* (sp. n.). Mexico (locality not known). On twigs said by owner to be sarsaparilla, but which are pronounced by both Craw and Cockerell to be grape vine. Coll. Craw on plants entering port of San Francisco.

Peculiar to Mexico. "Closely allied to *A. cydonia*, Comst." (Ckll.).

**Aspidiotus perseæ** *Comst.* Mazatlan (Sinaloa). On cocoanut palm. Coll. A. de Cima.

Known elsewhere only in Florida. "Attention should be drawn to the singular occurrence of Florida coccids on the Pacific coast of Mexico, the same not being found on the east slope so far as we know. The species are *Aspidiotus perseæ*, *Pseudoparlatoria parlatorioides* and *Comstockiella sabalis*—the last, however, represented by a variety, *mexicana*. So also to *Aspidiotus personatus* on the west slope and apparently not on the east slope, but common in the West Indies" (Ckll.).

**Aspidiotus reniformis** *Ckll.* (sp. n.). Tehuantepec City (Oaxaca). On leaves of *Ficus* sp., May 26, 1896. Coll. Towns.

Peculiar to Mexico. "Nearest to *A. perseæ*, Comst., but very distinct" (Ckll.).

**Aspidiotus townsendi** *Ckll.* Ciudad Porfiro Diaz (Coahuila). On leaves of shade tree in plaza, Nov. 17, 1894. Coll. Towns.

Peculiar to Mexico (and probably Texas).

**Aspidiotus nigropunctatus** *Ckll.* San Luis Potosi (S. L. P.). On "trueño," Oct. 12, 1894. Coll. Towns.

Peculiar to Mexico.

**Aspidiotus yuccæ** *Ckll.* Ciudad Porfirio Diaz (Coahuila), On *Yucca australis*, Nov. 25, 1894. Coll. Towns.

Peculiar to Mexico (and probably Texas).

**Aspidiotus ficus** *Ashm.* (a) Tampico (Tamaulipas). On orange and tangerine, Oct. 14, 1894. Coll. Towns.—(b) Chihuahua (Chih.). On "polo dulce," Oct. 19, 1894. Coll. Towns. (c) Matamoros (Tamaulipas). On orange, Dec. 9, 1894. Coll. Towns. (d) Laguna, on Carmen Island (Campeche). On orange and oleander, April 24, 1896. Coll. Towns. (e) Vera Cruz (Vera Cruz). On rose, May 7, 1893. Coll. Ckll.

Known elsewhere in Florida, Cuba, Jamaica, Texas (Brownsville, Coll. Towns.), Australia, Ceylon, Japan.

**Aspidiotus scutiformis** *Ckll.* (a) Victoria (Tamaulipas). On orange, Oct. 16, 1894. Coll. Towns. (b) Monterey (Nuevo Leon). On orange and pomegranate, Oct. 17, 1894. Coll. Towns. (c) Soledad (Vera Cruz). On avocado pear probably, May 8, 1893. Coll. Ckll.

Peculiar to Mexico.

**Aspidiotus articulatus** *Morg.* (a) Tampico (Tamaulipas.) On

orange, Oct. 14, 1896. Coll. Towns. (*b*) San Rafael (Vera Cruz). On orange, June 14, 1896. Coll. Towns. (*c*) Laguna, on Carmen Island (Campeche). On orange, April 24, 1896. Coll. Towns. (*d*) Izamal (Yucatan). On orange and cocoanut palm (on nuts), April 28, 1896. Coll. Towns. (*e*) Balantam (Yucatan). On *Ficus* sp., May 10, 1896. Coll. Towns. (*f*) Vera Cruz (Vera Cruz). On rose, May 7, 1893. Coll. Ckll.

Known elsewhere in Jamaica, Barbadoes, Nevis, Trinidad, Demerara.

**Aspidiotus personatus** *Comst.* Acapulco (Guerrero). On cocoanut palm. Coll. Craw on plants entering port of San Francisco.

Known elsewhere in Cuba, Jamaica, Barbadoes, Demerara. "It is singular that this species, so common in the West Indies, but seemingly wanting on the Gulf coast of Mexico, should now turn up on the Pacific side" (Ckll.).

**Aspidiotus mimosæ** *Comst.* Tampico (Tamaulipas). On *Mimosa* sp. Collector unknown; material found by Comstock in Museum Comparative Zoölogy.

Peculiar to Mexico.

**Aspidiotus** (sp. incert. off.) **perniciosus** *Comst.* Northern Tamaulipas (probably). Occurs abundantly in Lower Rio Grande Valley. On *Fraxinus viridis* var., at Brownsville, Texas, April to May 31, 1895. Coll. Towns.

Peculiar to Lower Rio Grande Valley. *A. perniciosus* is known in California, New Mexico, Florida, Virginia, eastern Maryland, Australia. "Does not look like *perniciosus* outwardly and surely must be distinct. though the microscopic characters of the ♀ agree so far as I can see" (Ckll.).

**Aspidiotus**, sp. nov. San Luis Potosi (S. L. P.). On avocado pear, Oct. 12, 1894. Coll. Towns.

Peculiar to Mexico.

**Aspidiotus**, sp. nov. (?). Hermosillo (Sonora). On tree called "bagote," probably *Parkinsonia* sp., Sept. 25, 1894. Coll. Towns.

Peculiar to Mexico.

**Aspidiotus**, sp. nov. (?). Monterey (Nuevo Leon). On rose, Oct. 17, 1894. Coll. Towns.

Peculiar to Mexico.

**Aspidiotus**, sp. nov. (?). Tehuantepec city (Oaxaca). On *Chilaspis linearis*, May 26, 1896. Coll. Towns.

Peculiar to Mexico.

**Comstockiella sabalis**, var. **mexicana** *Ckll.* Mazatlan (Sinaloa). On palms supposed to have come from this vicinity. Coll. Craw on plants entering port of San Francisco.

Peculiar to Mexico. The typical form, *C. sabalis* Comst., is known only from Florida.

**Diaspis persimilis** *Ckll.* (sp. nov.). Laguna, on Carmen Island. (Campache). On fruit of "*chicosapote*," April 24, 1896. Coll. Towns.

Peculiar to Mexico. "So near to *D. amygdali* (*lanatus*) that I had at first a notion to treat it as a geographical race. Very interesting discovery, scientifically and economically" (*Ckll.*). *D. amygdali* is known in Jamaica, Grand Cayman, Santo Domingo, Barbadoes, Antigua, Martinique, Trinidad, Florida, Georgia, District of Columbia, California, Japan, Hong Kong, Ceylon, Australia, Cape Colony.

**Diaspis cacti**, var. **opuntiae** *Ckll.* Xcolak (Yucatan). On *Opuntia* sp., May 10, 1896. Coll. Towns.

Known elsewhere only in Kingston, Jamaica. The variety *opunticola* Newst., is found in British Guiana; while the typical form *D. cacti* Comst., is a native of Arizona and New Mexico, but has been recently reported by Maskell to occur in India.

**Aulacaspis rosæ** Bouch. Chihuahua (Chih.). On rose, Oct. 19, 1894. Coll. Towns.

Known elsewhere in eastern United States, Europe, Jamaica, Demerara, California, Central America, Sandwich Islands, China, Australia, New Zealand.

**Aulacaspis boisduvalii** *Sign.* Alta Mira (Tamaulipas). On *Bromelia pinguin*, Oct. 15, 1894. Coll. Towns.

Known elsewhere in Jamaica, Barbadoes, Trinidad.

**Pseudoparlatoria parlatorioides** *Comst.* Acapulco (Guerrero). On cocoanut palm. Coll. Craw on plants entering port of San Francisco.

Known elsewhere only in Florida.

**Parlatoria pergandei** *Comst.* Matamoros (Tamaulipas). On orange, June 1, 1895. Coll. Towns.

Known elsewhere in Texas (Brownsville. Coll. Towns.), Florida.

**Mytilaspis citricola** *Pack.* or sp. nov. Tehautepec City (Oaxaca). On *Chilaspis linearis*, May 26, 1896. Coll. Towns.

Known elsewhere (*M. citricola*) in Florida, California, Tahiti, Trinidad. "*Mytilaspis* sp. with the general appearance of *citricola*,

material inadequate. If it is not *citricola*, it certainly is not any of the known Mexican species. The group to which it belongs is a very critical one, and one must have good material" (Ckll.).

**Mytilaspis gloverii** Pack. (*a*) Tampico (Tamaulipas). On orange, Oct. 14, 1894. Coll. Towns. (*b*) Matamoros (Tamaulipas). On orange, Dec. 9, 1894, and June 1, 1895. Coll. Towns. (*c*) Laguna, on Carmen Island (Campeche). On orange, April 24, 1896. Coll. Towns. (*d*) Izamal (Yucatan). On orange, April 28, 1896. Coll. Towns. (*e*) Jalapa (Vera Cruz). On orange, May 19, 1896. Coll. Towns.

Known elsewhere in Louisiana, Florida, south Europe, Texas (Brownsville. Coll. Towns.), Bolivia (La Paz), California, Japan, Ceylon.

**Mytilaspis philococcus** Ckll. Guanajuato (Guan.). On cactus. Coll. Dugés.

Peculiar to Mexico.

**Mytilaspis carinata** Ckll. Acapulco (Guerrero). On "plants like *Anthurium*." Coll. Craw on plants entering port of San Francisco.

Peculiar to Mexico.

**Howardia biclavis** Comst. Southern Mexico. On lime. Coll. Craw on plants entering port of San Francisco.

Known elsewhere in Tahiti, Trinidad, Sandwich Islands, Ceylon.

**Chionaspis citri** Comst. (*a*) Tampico (Tamaulipas). On orange and tangerine, Oct. 14, 1894. Coll. Towns. (*b*) San Rafael (Vera Cruz). On orange, June 19, 1896. Coll. Towns. (*c*) Laguna, on Carman Island (Campeche). On orange, April 24, 1896. Coll. Towns. (*d*) Izamal (Yucatan). On orange, April 28, 1896. Coll. Towns.

Known elsewhere in Louisiana, Cuba, Bermuda, Antigua, Trinidad, Demerara, Australia, New Zealand, Tonga, Japan, Samoa.

**Chionaspis furfurus**, var. **ulmi** Ckll. Northern Tamaulipas (probably). Occurs in Lower Rio Grande Valley. On *Ulmus crassifolia* in Brownsville, Texas, May 1, 1895. Coll. Towns.

Peculiar to Rio Grande Valley. *C. furfurus* Fitch. is known in Massachusetts, New York, Illinois, Maryland, southern California.

This ends the list of species so far known from Mexico. It should be stated that *Lecanium verrucosum* and *Dactylopius calceolarie* have been erroneously recorded from Mexico.

Professor Cockerell's paper on Mexican Coccidæ, in 1893 (Ann. & Mag. Nat. Hist. Ser. 6, Vol. XII, pp. 47-53), brought the list of species and varieties then known up to 30, his paper having added 12 species. The early additions to the list are shown in the following table adapted from Cockerell:

Species known from Mexico before Signoret's time, . . . . .	3
“ added by Signoret (1873-75), . . . . .	2
“ “ Comstock (1882-83), . . . . .	3
“ “ Riley and Howard (1890) . . . . .	2
“ found by Dugés (up to 1893) . . . . .	8
Total up to 1893, . . . . .	<u>18</u>

In 1893, Cockerell found, on a trip through Mexico, 12 additional species, bringing the list up to 30. Since then the number has been increased by the writer, who found 19 additional species in 1894; 8 further additional in 1895; and 16 still further additional in 1896. In addition to these, Mr. Alexander Craw has found, up to 1897, in the course of his horticultural quarantine work at San Francisco, 7 more species, thus bringing the total up to 80 in all with the close of the year 1896. Therefore, in three years (1894, 1895 and 1896) the list of Mexican Coccidæ has been increased 50 species, and that during only a few weeks each year, probably not exceeding three months altogether, during which time much other work was also attended to. This indicates the surprising results to be obtained in collecting and investigating scale-insects in Mexico, Central America, and the West Indies, as well as South America, which is still less known in this respect. The writer is at present engaged in collecting further material in Mexico, and has a considerable number of species already which are doubtless additional to this list, but it will be some time before they can be worked up.

## NEW SAWFLIES (TENTHREDININÆ) WITH DESCRIPTIONS OF LARVÆ.

By HARRISON G. DYAR, PH.D.

### *Siobla excavata* Norton.

Antennæ short and thick, a little thickened before apex; posterior tibiæ not reaching apex of abdomen; eyes reaching almost to base of mandibles; labrum round, pointed; lanceolate cell with oblique cross